

EXPLANATION OF THE ILLUSTRATIONS.

PLATE XIV.

Fig. 18. Contents of the Altmühl-valley diluvium. *a*, spiniferous spicule, characteristic average largest size; *b*, the same, smallest size; *c*, vermicular spicule; *h*, birotulate spicule; all drawn to the same scale, viz. 1-48th to 1-6000th inch, to show their sizes relatively. *d*, group or aggregated mass of vermicular spicules; *e*, various forms of the vermicular spicule; scale 1-24th to 1-6000th inch. *f*, vermicular spicule, more magnified, to show trace of a central canal. *g*, the smaller size of spiniferous spicule ("b"), more magnified, to show the form and recurvature of the spines in the smaller spicules generally; *i*, the birotulate "h," more magnified, to show the form of the shaft and arms; *k*, pollen-grain of Conifer; *l*, tetraspore of acotyledonous plant. The two latter on the scale of 1-24th to 1-6000th inch.

XXXVIII.—*Descriptions of two new Species of Asteroidea in the Collection of the British Museum.* By F. JEFFREY BELL, M.A.

THE *Asterias* now to be described was not satisfactorily recognized as an undescribed form at the time when I gave to the Zoological Society some account of the genus to which it belongs*. The *Culcita* has been long known to me as a new form, but I have refrained from publishing any account of it, in the hope that it might soon be possible to make a revision of the group to which it belongs. As it is now, however, exhibited in the new galleries of the Zoological Department at South Kensington, the student will probably find it convenient to have an account of it.

Asterias nautarum.

General formula, 2 *ad'*.

Arms five, do not begin to taper till the last third of their length, broadest at a short distance from their base; two rows of adambulacral spines; madreporic plate anechinoplacid, obscure, not far from the margin of the disk. Spines autacanthid, very blunt on abactinal surface. The abactinal surface presents an appearance of very close packing, as there are on it three rows of autacanthid spines; those of the outermost are very fairly developed. This last-mentioned row bounds the lower, while a row as well marked bounds the

* P. Z. S. 1881, p. 492.

upper edge of the side of the arm ; a few small spines are developed in the intermediate space. In addition to a not irregular row of spines which extends along the middle line of the abactinal surface, there are two irregular rows or lines of shorter spines on either side ; all these spines are fairly strong, and all quite blunt at their tips. The disk is pretty thickly covered with spines.

Colour (after thirty years in spirit) creamy white, the suckers a little darker.

$R=49 : r=10$, or R is nearly equal to $5r$.

Breadth of arms at base 9 millim., greatest breadth 11.

Hab. Ecuador.

The description has been drawn up from a single specimen ; others, not so well preserved, give the definite locality, and all were obtained from the collection of Haslar Hospital.

Standing nearer, perhaps, to *A. Brandti* than to any other species, *A. nautarum* is distinguished not only by its much shorter arms and stouter habit, its better developed though less numerous spines, but also by the fact that the skin-plates on which the spines stand are not so sharply separated from one another, so regularly set, or so well provided with granules, as in the more southern species from the Straits of Magellan. From *A. inermis*, which, like it, comes from the coasts of Ecuador, the new species is at once distinguished by its smaller disk, its longer arms, and its stronger stouter spines.

Culcita acutispinosa.

Resembling *C. coriacea*, and distinguished from all other species of the genus by the fact that the apices of the upturned ambulacra are below the level of the dorsal or abactinal surface. The body is almost completely discoidal in shape, the angles of the rays being very nearly altogether rounded off ; the sides of the disk are very deep ; in the dry specimens, at any rate, the actinal surface gradually slopes downwards, so that the animal is very much deeper along a line drawn dorso-ventrally through the actinostome than it is at the margin of the disk (62-40 millim.).

The adambulacral spines are in two rows ; in the inner there are ordinarily four on each plate, and they are not so well developed as in some allied species ; about five plates out from the actinostome they measure about 5 millim. in length. In the outer row there are generally two spines, one of which is very strong and blunt, while the other is much smaller. The spines on the intermediate plates sometimes lie quite close to the outer interambulacral series, and occasionally appear to invade it.

The actinal surface is not marked out into areolæ, and is richly invested by a number of short, blunt, stout processes, hardly to be called spines, amidst which a coarse granular covering is to be observed. The poriferous region begins quite suddenly, at about the second fourth of the length of the side of the disk (counting from the actinal margin); while this is the point at which the pores begin at the middle of each side of the disk, the line of demarcation gradually curves upwards, so that along the radial axes the pores begin just above the apex of the ambulacral groove. The greater part of the sides and the whole of the abactinal surface of the disk are covered with short sharp spines, which are scattered over them with considerable profusion, though in no definite order; dotted among the spines are pores of moderate size, which are very indistinctly grouped into pore-areas; surrounding and separating the pores are fine granules, and these are, at apparently irregularly disposed points, closely aggregated into distinct patches; such a patch is found outside the spines which fringe the anus. On the abactinal surface the pedicellariæ are small and scarce; on the actinal they are, though small, much more numerous. The madreporic plate is large and raised above the surface. (It has unfortunately been injured in the specimen under description.)

The single dried specimen has the upper surface of a pinkish and the lower of a yellowish-white hue.

Hab. Aneiticum, New Hebrides

As already stated, the greatest height is 62 millim.; its diameter is 120 millim.

XXXIX.—*Descriptions of two new Species of the Genus Megalops (Coleoptera, Stenini)*. By CHARLES O. WATERHOUSE.

Megalops ornatus, sp. n.

Niger, nitidus; thorace subcylindrico, ad latera sulcis quatuor fundo fortiter punctatis; elytris flavis nigro ornatis, in disco anteriore punctis nonnullis sat profundis biseriatis impressis, pedibus pallide piceis.

Long. (mandib. incl.) $2\frac{3}{4}$ lin.

Mandibles pitchy. Head with a few strong punctures; on each side there is a slight longitudinal impression. Thorax in front about the same width as the head between the eyes,